

cephalic process : tegmina yellowish olivaceous, the veins and costal area bright green ; the entire surface covered with black-edged orange spots, arranged as in *F. virescens*, but larger and better defined ; outer margin brown : wings carmine ; outer margin brown, broadest at apex : cephalic process, head, and prothorax above, and the entire pectus green, spotted with black ; meso- and metathorax testaceous, black-spotted ; abdomen above reddish, below testaceous varied with emerald-green ; legs emerald-green.

Length of body, including cephalic process, 1 inch, of cephalic process 4 lines ; expanse of wings 2 inches 1 line.

Hab. Nepal. Type, B.M.

Mr. Whitely has shown me a second example from Sikkim. This species will come at the end of my Section 5.

XVII.—On *Dendrohyrax Bakeri*, a new Species from Tropical North-eastern Africa. By Dr. J. E. GRAY, F.R.S. &c.

SIR SAMUEL BAKER, K.C.B., collected during his travels a *Dendrohyrax* at Latiko, in lat. 3° 0' N., in tropical Eastern Africa, and has presented a skin with its skull to the British Museum. The skull shows that it is a species of the genus *Dendrohyrax*, and is peculiar in that genus for having the back edge of the orbit incomplete, whereas in the skulls of the two species of this genus which we have in the British Museum the bony orbit is complete.

The lower jaw is moderately narrowed in front, with a straight lower edge, and rather dilated behind, somewhat as in *Dendrohyrax dorsalis*—and very different from that of *Dendrohyrax arboreus*, which is dilated, and has a rounded outline to the lower edge.

The fur is short, uniform, soft, and brown, grizzled with pale tips to the hairs, very unlike the long, soft, fluffy fur of *Dendrohyrax arboreus* from South-east Africa, and the harsh dark brown fur, with a large white dorsal patch, of *Dendrohyrax dorsalis* from West Africa.

It is certainly a species that has not been hitherto entered in our catalogues ; I therefore propose to call it *Dendrohyrax Bakeri*, after its discoverer.

The skull in many respects, especially in the incompleteness of the orbits, agrees with a skull without lower jaw in the British Museum, which we received in 1858 from the museum of the Zoological Society, without any special habitat, and

which, if I recollect right, was obtained attached to a spear as a *fetish*. I figured this skull in the 'Hand-list of Edentate and Thick-skinned Animals,' plate xi. fig. 3, as *Dendrohyrax Blainvillei*; but as it differs in the form of the intermaxillary bone, in the dilatation of the lower side of the orbit, and in several other particulars, and as we do not know the lower jaw, it is very uncertain if it may not belong to a different species; and therefore I think it best to give the complete animal a distinct name. The form of the intermaxillary of *D. Blainvillei* is very like that of *D. dorsalis*, though it differs from the latter in the orbit being incomplete; but this may be an accidental variation.

The three species of *Dendrohyrax* in a perfect state in the British Museum may be distinguished thus:—

1. *Dendrohyrax Bakeri*.

Fur soft, short, and close; the hair is reddish, with a black subterminal band and pale tips, giving the animal a grizzled appearance, with a very narrow white dorsal streak, which has a blacker edge; the top of the head is darker, the lips, throat, chest, and underside of body and inside of limbs yellowish white.

Hab. Eastern Tropical Africa, Latiko (*Sir Samuel Baker, K.C.B.*).

This animal has much the appearance of the true *Hyraxes* from Abyssinia and North-eastern Africa, but has quite a different form of skull.

Of this animal, or an allied species of *Hyrax*, Dr. Schweinfurth, in the 'Heart of Africa,' p. 385, says "Abdoo, a native, observed that the rock-rabbits at Mvolo clamber up and down smooth rocks that are almost perpendicular, and that, when you shoot one of these creatures and catch hold of it, it sticks to the rock with its feet in its death-struggles as though it had grown there." Dr. Schweinfurth states:—"The under part of the foot is dark and elastic as india-rubber, and has several deeply indented cushions. This arrangement, which no other Mammalia or warm-blooded animals seem to possess, enables the creature, by opening and closing the centre cleft, to throw off part of its weight and to gain a firm hold upon the smooth surface of the stone. The toes are nothing but pads of horny skin without regular nails, the hind foot alone being furnished on the inner toe with one claw, which is sharply compressed. For some time I could not at all comprehend how, with such a plump foot, the rock-rabbit could climb so safely over pre-

cupituous walls of granite, or even along the polished branches of the little trees in the ravines; but the mystery was solved when I tried to pick up an animal which I myself had wounded. The granite was as smooth as pavement; yet when I seized the creature by the neck it clung like bird-lime to the ground, and required some force before it could be removed."

The rock-rabbits, called "Kako" by the Nubians, from the noise that they make, "dwell among the crevices of the gneiss. Immediately after sunset or before sunrise they can be seen everywhere, squatting like marmots at the entrance to their holes, into which at the approach of danger they dart with wonderful snorts and grunts."

2. *Dendrohyrax arboreus*.

Fur very long and soft; hair blackish, with greyish tips; back with a short, broad, whitish spot; the ears hairy; the lips, throat, chest and underside, and inner side of limbs whitish.

Hab. South-east Africa; Natal.

This species is most distinct in appearance from all other *Hyraces*.

3. *Dendrohyrax dorsalis*.

Covered with harsh brown fur, rather paler on the chest and beneath; has a large yellowish-white dorsal streak.

Hab. Western tropical Africa. "Makes a great noise," according to the account of Mr. Winwood Reade, who informed me that the specimen of this animal which he gave to the British Museum was the only mammalian taken during the march to Coomassie.

This species is known from all other *Hyraces* by the large size of the head, the harshness of the fur, and the large size of its dorsal spot.

The skulls of *Dendrohyrax* may be divided thus:—

I. *The intermaxillaries squarish, with a broad truncated hinder end.*

1. *Dendrohyrax dorsalis*, Gray, Hand-list, pl. xiii. fig. 1.

Infraorbital foramen large, far in front of the orbit; orbit roundish.

2. *Dendrohyrax arboreus*, Gray, Hand-list, pl. xiii. fig. 2.

Infraorbital foramen small, just in front of the orbit; orbit nearly circular.

3. *Dendrohyrax Blainvillei*, Gray, Hand-list, pl. xi. fig. 3.

Infraorbital foramen small, under the front edge of the orbit; orbit oblong, longer than high.

II. *The intermaxillaries triangular, produced and acute behind above.*

4. *Dendrohyrax Bakeri*.

Interorbital foramen large, in front of the front edge of the orbit; orbit longer than high.

I. *The lower jaw deep, becoming much broader behind, with an arched lower edge, being most convex under the condyle, and with a long rounded hinder edge. The orbit complete. Dendrohyrax.*

1. *Dendrohyrax arboreus*, Gray, Hand-list, pl. xiii. fig. 2.
South Africa.

Blainville, in his 'Ostéographie,' figures a skull under the name of *Hyrax arboreus* (plate ii.); but it is from an imperfect skull. It may represent a specimen of this species; but if it does, the proposed restoration of the lower jaw gives a very erroneous idea of the proper form of the jaw.

II. *The lower jaw moderately broad, with a straight lower edge, having the hinder end rounded and expanded backwards.*

2. *Dendrohyrax dorsalis*, Gray, Hand-list, pl. xiii. fig. 1.
Orbit complete behind; lower jaw very long.
Western tropical Africa.

3. *Dendrohyrax Bakeri*.

Orbit incomplete behind; intermaxillary bone triangular, acute behind.

North-eastern tropical Africa.

The skull of *Dendrohyrax Bakeri* has a good deal of resemblance to the skull of *Euhyrax Bocagei* from Angola (no. 1515 a), 'Hand-list,' pl. xi. fig. 2, which I have referred to the genus *Euhyrax*; but unfortunately the occipital bone is broken away. However, the comparison of the animals shows that, should this species prove to be a *Dendrohyrax*, which I do not think is likely (as it has a triangular interparietal bone), it is a species quite distinct from any of the other specimens of that genus in the British Museum, as the fur of the upper

part is of a nearly uniform whity brown colour with greyish tips to the hairs, whiter beneath, and with a small, round, white dorsal spot.

III. *The lower jaw not known.*

4. *Dendrohyrax Blainvillei*, Gray, Hand-list, pl. xi. fig. 3.

Orbit incomplete behind; intermaxillary bone square, truncated behind; lower side of orbit much produced, with a thick, rounded edge and a large concavity on the underside, as in *D. dorsalis*.

Africa.

XVIII.—*On Sexual Variations in the Nestling-Plumage of the Booted Eagle* (*Nisaëtus pennatus*). By HOWARD SAUNDERS, F.Z.S. &c.

THE ordinary adult plumage of the Booted Eagle is so well known that it is unnecessary to do more than remark that the upper parts in general are of an umber-brown, whilst the underparts are of a buff or creamy white, sometimes deepening into fawn-colour, and with striations more or less distinct down the shafts of the feathers of the throat, breast, abdomen, and flanks. That this plumage is common to both sexes has been abundantly proved by numerous carefully sexed specimens obtained of late years from various localities between Spain on the west and India on the east. But with regard to the plumage of the immature bird there has existed some difference of opinion, although most naturalists have stated that it has the underparts of a dark colour. Mr. R. Bowdler Sharpe, in his recently published 'Catalogue of the Accipitres in the British Museum,' p. 254, describes the underparts of the young as "entirely dull brown;" but, on the other hand, Dr. Jerdon, in his 'Birds of India,' vol. i. p. 64, has described an immature bird as having a light breast. Herr A. v. Pelzel, again ('Ibis,' 1868, p. 305), mentions a young bird just able to fly as "underneath brown:" and subsequently Dr. Jerdon ('Ibis,' 1871, p. 246) was inclined to modify his former opinion; but as the specimens there alluded to are the ones I am about to describe, it is needless to recapitulate his views. Mr. Hume, however ('Rough Notes,' p. 184), hazarded the opinion that the dark plumage was the adult stage (!), apparently basing this upon an instance of a *female* in the